

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
25 August 2005 (25.08.2005)

PCT

(10) International Publication Number  
**WO 2005/077967 A1**

(51) International Patent Classification<sup>7</sup>: **C07H 21/04**,  
C07B 59/00, C07D 495/04, 475/04, A61K 51/06, 51/04,  
G01T 1/161

(21) International Application Number:  
PCT/CA2005/000195

(22) International Filing Date: 14 February 2005 (14.02.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/544,163 13 February 2004 (13.02.2004) US

(71) Applicant (for all designated States except US): **THE  
UNIVERSITY OF BRITISH COLUMBIA** [CA/CA];  
University-Industry Liaison Office, #103, 6190 Agronomy  
Road, Vancouver, British Columbia V5T 1Z# (CA).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **PERRIN, David, M.**  
[US/CA]; #29, 2625 Hemlock, Vancouver, British Colum-  
bia V6H 2V6 (CA). **TING, Richard** [CA/CA]; 25 Peveril  
Avenue, Vancouver, British Columbia V5Y 2L2 (CA).

(74) Agents: **ROBINSON, Christopher, J.** et al.; Smart &  
Biggar, Box 11560 Vancouver Centre, Suite 2200, 650  
West Georgia Street, Vancouver, British Columbia V6B  
4N8 (CA).

(81) Designated States (unless otherwise indicated, for every  
kind of national protection available): AE, AG, AL, AM,  
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,  
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,  
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,  
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,  
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,  
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,  
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,  
ZW.

(84) Designated States (unless otherwise indicated, for every  
kind of regional protection available): ARIPO (BW, GH,  
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,  
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,  
FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO,  
SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN,  
GQ, GW, ML, MR, NE, SN, TD, TG).

**Published:**

— with international search report

For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.

(54) Title: **RADIOLABELED COMPOUNDS AND COMPOSITIONS, THEIR PRECURSORS AND METHODS FOR THEIR  
PRODUCTION**

(57) Abstract: Positron emitting compounds and methods of their production are provided. The compounds have the formula: (F)<sub>m</sub>  
G (R)<sub>n</sub> wherein each R is a group comprising at least one carbon, nitrogen, phosphorus or sulfur atom and G is joined to R through  
said carbon, nitrogen, phosphorus or sulfur atom; G is silicon or boron; m is 2 to 5 and n is 1 to 3 with m + n = 3 to 6 when G is  
silicon; m is 1 to 3 and n is 1 to 3 with m + n = 3 to 4 when G is boron; and wherein the compound further comprises one or more  
counterions when the above formula is charged; and wherein at least one F is <sup>18</sup>F.

WO 2005/077967 A1